

**METHOD AND APPARATUS FOR VOICED SPEECH EXCITATION FUNCTION
DETERMINATION AND NON-ACOUSTIC ASSISTED FEATURE EXTRACTION**

ABSTRACT OF THE DISCLOSURE

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A method and apparatus are provided for producing a human voiced speech
excitation function. The movement (position versus time) of a tracheal wall is
determined using an electromagnetic sensor or equivalent, and the position is translated
to pressure by determining the times of largest change in the movement waveform
using a derivative, or differential, of the movement waveform. Pulses of various
amplitude and width are placed at these times, and the result is shown to contain the
same frequency information as the movement signal, although it can be described with
considerably fewer parameters.

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